approaching the capacity to screen everything against every biochemical target ever identified, we wonder if science is taking a backward step towards empiricism. We will have a huge barrage of information without having thought about how all the pieces fit together. Today's approach is in danger of becoming haphazard, with little logic driving it forward.

The costs associated with this "big, dumb science" approach are not trivial. But as new information is analysed and a more focused rationale emerges, the costs should diminish. People who begin to understand the processes involved, rather than simply generating large quantities of data, are going to rediscover the pleasure of becoming scientists again.

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1 Wetterau JR, Gregg RE, Harrity TW, Arbeeny C, Cap M, Connolly F, et al. An MTP inhibitor that normalizes atherogenic lipoprotein levels in WHHL rabbits. *Science* 1998;282:751-4.
2 Rohrer SP, Berk SC. Development of somatostatin receptor subtype selective agonists through combinatorial chemistry. *Drug Discov Dev* 1999;2:293-303.
3 Merrifield RB. Automated synthesis of peptides. *Science* 1965;150:178-85.
4 Geysen HM, Meleon RH, Barteling SJ. Use of peptide synthesis to probe viral antigens for epitopes to a resolution of a single amino acid. *Proc Natl Acad Sci USA* 1984;81:3998-4002.
5 Houghten RA. General method for the rapid solid-phase synthesis of large numbers of peptides: specificity of antigen-antibody interaction at the level of individual amino acids. *Proc Natl Acad Sci USA* 1985; 82:5131-5.
6 Houghten RA, Pinilla C, Blondelle SE, Appel JR, Dooley CT, Cuervo JH. Generation and use of synthetic peptide combinatorial libraries for basic research and drug discovery. *Nature* 1991;354:84-6.

How to treat haemorrhoids

Prevention is best; haemorrhoidectomy needs skilled operators

Haemorrhoids and their symptoms are one of the most common afflictions in the Western world.[1–4] They can occur at any age and can affect both women and men. Because the presence of haemorrhoidal tissue is normal—it acts as a compressible lining which allows the anus to close completely—disease should be thought of as haemorrhoidal tissue that causes significant symptoms.[1 2] Unfortunately, haemorrhoids tend to get worse over time, and disease should be treated as soon as it occurs.

Haemorrhoids cushion sinusoids, and bleeding occurs from presinusoidal arterioles.[2] The main cushions lie at the left lateral, right anterolateral, and right posterolateral portions of the anal canal. Secondary cushions may be present. Proposed aetiological factors include constipation, prolonged straining, derangement of the internal anal sphincter, and pregnancy. Haemorrhoids may be caused by more than one factor. Despite being examined in several studies, the pathogenesis remains unclear.[1 2] Haemorrhoids can be either internal or external, and patients may have both types.[1–4] External haemorrhoids occur below the dentate line and are generally painful. When inflamed they become red and tender, and if they become thrombosed they can cause severe pain and be felt as a tender mass in the anal area. Internal haemorrhoids are located proximal to the dentate line and are usually painless. If they protrude into but do not prolapse out of the anal canal they are classed as grade I; if they prolapse on defecation but spontaneously reduce they are grade II; haemorrhoids that require manual reduction are grade III; and if they cannot be reduced they are grade IV. Haemorrhoids that remain prolapsed may develop thrombosis and gangrene.[1]

Symptoms of haemorrhoids can include bleeding, mucosal or faecal soiling, itching, and occasionally pain. The diagnosis is made by examining the anus and anal canal, and it is important to exclude more serious causes of bleeding, such as colorectal cancer. No relation between haemorrhoids and cancer has been found.

The best treatment is prevention. A diet high in fibre and bulk can prevent constipation. If the diet cannot be modified in this way, adding bulk laxatives may be necessary; they can prevent worsening of the condition. There are numerous creams and suppositories that can relieve anal irritation and pain, but they rarely provide long term benefit.

For patients with grade I or grade II haemorrhoids or who have larger haemorrhoids but wish to avoid surgical treatment, outpatient procedures, such as sclerotherapy, photocoagulation, rubber band ligation, and cryotherapy, may be appropriate.[1–4] An ulcer forms above the haemorrhoidal tissue after each of these treatments. As the wound heals, fibrosis results in mucosal fixation.[2] It is thus essential that local treatments be applied to the mucosa above the haemorrhoids; if applied too low, they may cause excessive pain. Rubber band treatment works effectively on internal haemorrhoids that protrude during defecation. The procedure sometimes produces mild discomfort and bleeding, but it is generally the treatment of choice for patients who have haemorrhoids and for whom haemorrhoidectomy is considered too radical, or when the patient specifically wishes to avoid surgical excision.[3]

Excessive activity of the internal anal sphincter is often associated with bleeding; for such patients gentle anal dilatation under general anaesthesia is advisable.[3] It is important to recognise that stretching the sphincter inevitably attenuates the external sphincter as well as the internal[1]; spasms of the internal sphincter may be relieved by injections of botulinum toxin or topical application of nitroglycerine ointment.[5 6]

If symptoms recur after topical treatment the patient can be treated with a further application, a different treatment may be applied topically, or haemorrhoidectomy may be considered for more definitive control of symptoms. Haemorrhoidectomy is necessary when clots repeatedly form in external haemorrhoids, ligation fails to treat internal haemorrhoids, the protruding haemorrhoid cannot be

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reduced, or there is persistent bleeding.[1 2 4] Haemorrhoidectomy is done under general anaesthesia and may require admission to hospital.

Several operative techniques have been described.[1 2] Milligan-Morgan's open haemorrhoidectomy is most commonly used and is widely considered to be the most effective surgical technique for treating haemorrhoids.[7] Other techniques, such as Ferguson's closed haemorrhoidectomy and Parks' submucosal haemorrhoidectomy, are technically more complex.

The surgeon's choice of technique is primarily based on personal experience and technical training, and only a competently performed technique produces satisfying results.[1 4 8] If technical guidelines are rigorously followed, the feared complications associated with surgical procedures, such as anal stricture and sphincteric injuries, are largely reduced.[9] Furthermore, prophylactic metronidazole suppresses postoperative pain, increases patients' satisfaction, and allows them to return to work earlier.[6] Laser haemorrhoidectomy has no advantages over standard techniques; it is also quite expensive and no less painful.[1]

Studies suggest that stapled haemorrhoidectomy is an effective treatment, reducing postoperative pain, the length of hospital stay, and encouraging a rapid return to normal activities when compared with conventional haemorrhoidectomy.[10 11] This technique potentially provides a tool for reducing some of the complications associated with conventional surgery, provided that the operator has the technical experience. However, stapling increases operative costs; advanced surgical skills are necessary; and there is a learning curve.[12] Stapled haemorrhoidectomy may cause a full thickness excision of the rectal wall and injuries to the anal sphincter, and it does not allow for the treatment of concomitant anal disease.

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1 Corman ML. *Colon and rectal surgery*. 4th ed. Philadelphia: Lippincott-Raven, 1998:147-205.
2 Beck DE. Hemorrhoidal disease. In: Beck DE, Wexner SD, eds. *Fundamentals of anorectal surgery*. 2nd ed. London: WB Saunders, 1998:237-53.
3 Salvati EP. Nonoperative management of hemorrhoids. *Dis Colon Rectum* 1999;42:989-93.
4 MacRae HM, McLeod RS. Comparison of hemorrhoidal treatment modalities: a meta-analysis. *Dis Colon Rectum* 1995;38:687-94.
5 Brisinda G, Maria G, Bentivoglio AR, Cassetta E, Gui D, Albanese A. A comparison of injections of botulinum toxin and topical nitroglycerin ointment for the treatment of chronic anal fissure. *N Engl J Med* 1999;341:65-9.
6 Carapeti EA, Kamm MA, McDonald PJ, Phillips RK. Double-blind randomised controlled trial of effect of metronidazole on pain after day-case haemorrhoidectomy. *Lancet* 1998;351:169-72.
7 Milligan ETC, Morgan CN, Jones LE, Officer R. Surgical anatomy of the anal canal and operative treatments of haemorrhoids. *Lancet* 1937;ii:1119-1124.
8 Brisinda G, Civello IM, Maria G. Haemorrhoidectomy: painful choice. *Lancet* 2000;355:2253.
9 Maria G, Brisinda G, Civello IM. Anoplasty for the treatment of anal stenosis. *Am J Surg* 1998;175:158-60.
10 Rowsell M, Bello M, Hemingway DM. Circumferential mucosectomy (stapled haemorrhoidectomy) versus conventional haemorrhoidectomy: randomised controlled trial. *Lancet* 2000;355:779-81.
11 Mehigan BJ, Monson JRT, Hartley JE. Stapling procedure for haemorrhoids versus Milligan-Morgan haemorrhoidectomy: randomised controlled trial. *Lancet* 2000;355:782-5.
12 Fazio VW. Early promise of stapling technique for haemorrhoidectomy. *Lancet* 2000;355:768-9.

Mental health services for people with learning disabilities

A complete overhaul is needed with strong links to mainstream services

Mental health services in the United Kingdom are set for dramatic restructuring in the light of recent government initiatives to improve quality of care and equity of provision. National standards for promoting mental health and treating mental illness are designed to reduce the risk of future tragedies and improve the quality of life of people with mental illness.[1] But little thought has been given to the well documented mental health needs of people with learning disabilities.

In the age of institutional care the disturbed and challenging behaviour of people with learning disabilities was thought to be due to their living environment and their learning disability. Their care was greatly influenced by humanistic and philosophical ideas.[2] The widespread closure of "long stay" hospitals for people with learning disabilities was accompanied by the creation of multidisciplinary community teams that tried to manage a wide range of physical and mental health needs.[3] Unfortunately, over the years, the specialist mental health provision for this group has remained fragmented, outside the mainstream mental health services, and delivered by organisations that have a poor understanding of the special needs of people with learning disabilities.[4]

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Between 30% and 50% of people with learning disabilities may show a variety of behaviours, particularly challenging behaviour, that are precipitated by problems such as communication disabilities and physical and mental illness.[5] Challenging behaviour is a common reason why people with learning disabilities are relocated to costly residential facilities that are often far away from their families.

Mental disorders are also more prevalent in people with learning disabilities. In particular, rates of schizophrenia are three times higher than in the general population although there are few data about other types of mental illness.[2] In addition, there is evidence for a subgroup of patients with mental illness and borderline intellectual functioning who are difficult to treat in standard psychiatric services.[6] Attempts to integrate mental health provision for people with learning disabilities with generic mental health services have had only a limited impact in changing professional or service attitudes.[7]

A few joint inpatient schemes have been developed that admit people with learning disabilities who are mentally ill to adult mental health beds and provide extra support from a multidisciplinary learning disabilities team.[8] No systematic evaluation of these schemes has been carried out: anecdotal evidence